REMARKS/ARGUMENTS

Claims 1-17 and 28-30 are pending in this application and stand rejected under 35 U.S.C. §102 (b) as allegedly being anticipated by U.S. Patent 6,006,225 ("Bowman"). Applicants respectfully disagree and request reconsideration of the present application in light of the below recited remarks.

Bowman does not teach or suggest features of the claimed invention, namely, as recited in ***newly amended*** independent claims 1, 9, and 28, one or more search concepts, "each having a relative popularity proportional to a total number of previous queries which have been mapped to the concept."

The present application discloses systems and methods for query refinement to enable improved searching based on identifying and utilizing popular concepts related to user's queries. More specifically there is disclosed:

> "In a method of one embodiment, a query is received from a user, and then mapped to one or more search concepts. A list of search concepts associated with the query is then displayed. Alternatively or additionally, the search concepts associated with the query are used to provide a set of improved search results. (Application, Summary of the invention)."

Thus, the present application discloses generating improved search results by performing a query refinement prior to executing a search. During the query refinement, an original query term may be matched to a search concept term that is more closely related to the user's intent. An improved search may then be performed using the search concept term rather than the original query term. For example, a user wishing to find information about George Bush Jr. may enter an original query "George Bush". Such an original query, if executed, will return results about both George Bush Jr. and George Bush Sr. The present invention may, prior to execution of the query, match the original query to two search concepts: "George Bush Jr." and "George Bush Sr.". The user may then execute an improved search using the search concept term "George Bush Jr." rather than the original query term "George Bush". The improved search will generate improved results by targeting the search to George Bush Jr.

Each concept may have a set of associated key phrases that may be used to search for the concept. For example, the concept "George Bush Jr." may have associated key phrases,

"George W. Bush" and "43rd President", while the concept "George Bush Sr." may have associated key phrases "George H.W. Bush" and "41st President". Furthermore, each concept may have a relative popularity which is proportional to a number of times the key phrases associated with the concept have been previously used. For example, if either of the terms "George W. Bush" or "43rd President" appeared in 40 previous queries, and either of the terms "George H.W. Bush" or "41st President" appeared in 10 previous queries, then the concept "George Bush Jr." may have a relative popularity of 4, while the concept "George Bush Sr." may have a relative popularity of 1 (based on a 4 to 1 ratio). The relative popularities of the search concepts may be used to order a displayed list of the search concepts or to determine a number of returned search results for each of the search concepts.

In contrast to the claimed invention, Bowman disclose a query refinement system in which key terms appearing in a query are matched to related terms. The key terms are matched to the related terms based on a number of times that the key terms have been used together with the related terms in previous queries. As shown in Fig. 5A of Bowman, a record is kept of the number of times each related term (142) has been used together in a previous query with a particular key term (140).

Importantly, neither the related terms (142) or the key terms (140) of Bowman are analogous to concepts as claimed in the present application. The present application, as recited in _**newly amended**_ independent claims 1, 9, and 28, requires one or more concepts, "_**each having a relative popularity proportional to a total number of previous queries which have been mapped to the concept**_." Specifically, the key terms (140) of Bowman are not analogous to the claimed concepts because they do not have a relative popularity. Furthermore, although each of the related terms (142) of Bowman arguably has a relative popularity, _**the relative popularity is based strictly on queries which include a particular key term (142)**_. For example, in column 1 of Fig. 5A, the term "trail" is given a point (41) only if it has appeared in a previous query with the term "bike". Furthermore, in column 2, the term "trail" is given a point (7) only if it has appeared in a previous query with the term "outdoor". By contrast, in the claimed invention, the relative popularity of a concept is proportional to the "_**total number**_" of previous queries to which the concept has been mapped, and is not broken down with respect to particular key terms (140).

Applicants respectfully submit that dependent claims 2-8, 10-17, 29 and 30 are patentable at least by reason of their dependency. Accordingly, reconsideration and withdrawal of the 35 U.S.C. § 102(b) rejections are respectfully requested.
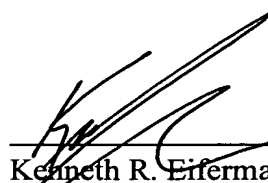
CONCLUSION

In view of the above remarks, Applicant respectfully submits that the present application is in condition for allowance. Reconsideration of the application and an early Notice of Allowance are respectfully requested.

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Kenneth R. Eiferman
Registration No. 51,647

Woodcock Washburn LLP
One Liberty Place - 46th Floor
Philadelphia PA 19103
Telephone: (215) 568-3100
Facsimile: (215) 568-3439